

FLIGHTCHECKLIST



Commit to Safety: Professional Pilots Always Use a Checklist

INITIAL EQUIPMENT SETUP

READ THE MANUAL

Familiarize yourself with all aspects of your sUAS before you even consider going out for your first flight.

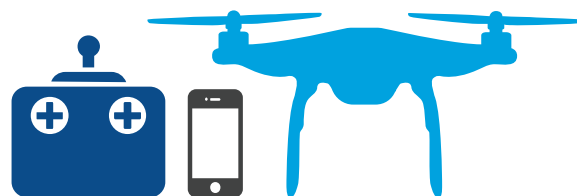
COMPLETE sUAS SETUP

Most sUAS manufacturers include an interactive setup process for the first time a new aircraft is detected via the Flight Software.

CHECK FIRMWARE

Check firmware status using applicable sUAS operating software.

Versions of firmware for the sUA, Ground Control Station, and any additional subsystems and payloads should all be reported as "current" and "compatible."



- ▶ For WiFi only flight displays, it may be necessary to connect to the internet periodically to allow the sUAS operating software to check for available updates.
- ▶ Firmware updates should be conducted as soon as practical following notification. If connectivity in the field prevents updating, the update should be performed as soon as circumstances allow.
- ▶ If the owner/operator had trouble installing the firmware using a particular method/device, alternative methods suggested by the manufacturer, or a different device should be used. If problems are still encountered, the owner/operator should contact the sUAS manufacturer for additional guidance
- ▶ It may be advisable to wait 48-96 hours to install new firmware following notification in order allow time for any "bugs" to be discovered by early adopters and addressed by the sUAS manufacturer with a follow-up release.

CHECK SOFTWARE

Make sure the manufacturer-provided software is the latest version.

- ▶ Allow your tablet/flight display device to connect to the internet and verify the current version of your sUAS operating software on a periodic basis.
- ▶ When a new version of software is discovered, it should be downloaded and installed, provided no critical performance issues have been reported by early adopters.



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LOCATION CHECKLIST

IDENTIFY THE AIRSPACE

Use either the manufacturer's or a third-party app to ensure you are allowed to fly in that location (depending on the type of user you are).

Commercial users need an airspace authorization to fly in controlled airspace.

Recreational users do not need airspace authorizations, but if planning to fly within 5 miles of an airport are required to notify the airport directly prior to operation.

CONSIDER PRIVACY

Always be aware of privacy considerations. If operating in populated areas, refer to a privacy best practices document, including the one provided by Global Aerospace.

CHECK FOR RESTRICTED AREAS

You can't fly near military bases, national parks, selected government buildings, Washington D.C., etc. In certain areas local laws may apply as well.

CHECK FOR TEMPORARY FLIGHT RESTRICTIONS

Check for TFR NOTAMS via Flight Services, tfr.faa.gov, or a third-party app.

ABIDE BY FAA REGULATIONS

Remain below 400 feet AGL, maintain visual line of sight, do not fly over people, do not fly at night.

MAINTAIN VISUAL LINE OF SIGHT

Keep eyes on your aircraft at all times.

BE SMART AND CREATE A PLAN

Set a perimeter, avoid power lines, consider weather, locate landmarks, plan for emergencies, use checklists.

FIND A GOOD TAKE-OFF AREA

Flat, free of obstructions, people, and possible interference.



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PRE-FLIGHT CHECKLIST

VERIFY ALL EQUIPMENT IS FULLY CHARGED

Ground Control Unit, aircraft batteries, and mobile device or tablet.

VISUALLY INSPECT THE DRONE

Physically examine the unmanned aircraft and all gimbals/payloads/props for visible defects.

REMOVE GIMBAL CLAMPS

Gently remove gimbal clamps.

CHECK PROPS

Make sure that they are properly attached and secure.

TURN ON REMOTE CONTROL

Always power on Ground Control equipment before the aircraft system.

POWER UP

Add fully charged battery to the drone and power on the battery.

LAUNCH THE FLIGHT CONTROL APP *(If using)*

VERIFY SYSTEM STATUSES

Firmware versions, Flight Mode, Datalink Strength, Payload Status, Battery Status, and Onboard Sensor Statuses.

SET/VERIFY RETURN-TO-HOME HEIGHT (RTH)

Based on the height of the tallest obstacle within the flight area.

SET/VERIFY MAXIMUM FLIGHT ALTITUDE

Use to ensure compliance with FAA rules for maximum flight altitude, if available.

PERFORM A COMPASS CALIBRATION IF REQUIRED

Follow manufacturer instructions for when and how to calibrate the magnetometer (compass). It is considered a best practice to calibrate whenever you move more than 50 miles from the previous flight area.

CONFIRM GPS SATELLITE CONTROL

Verify GPS signal strength and number of satellites connected. Be aware of the potential for losing GPS positioning capability in any area where less than 10 satellites are able to connect to the unmanned aircraft.

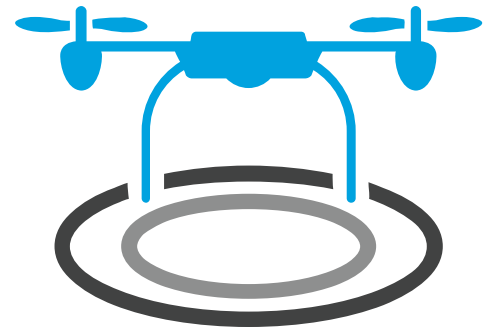
MAP CHECK

Do a quick map check on the app monitor to make sure the icon indicating the GPS recorded launch position represents your actual location.

CHECK AND CONFIRM CAMERA AND GIMBAL SETTINGS *(If applicable)*

Auto iris, white balance, shooting resolution, frame rate, file type, gimbal mode, etc.

DESIGNATE POTENTIAL EMERGENCY LANDING LOCATIONS PRIOR TO TAKEOFF



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TAKE OFF CHECKLIST

MAINTAIN FLIGHT LINE

Do a final check to make sure all bystanders are clear. If people are standing too close, ask them to stand back.

MULTIROTOR TAKE OFF

Conduct a final check of sUA controls, datalinks, & overall system status. Upon takeoff, execute an initial hover at 8-10 feet. Perform a quick status check on your monitor to make sure everything is in order (GPS control, Datalink strength, battery levels, etc.), then proceed with your flight.

FIXED WING TAKE OFF

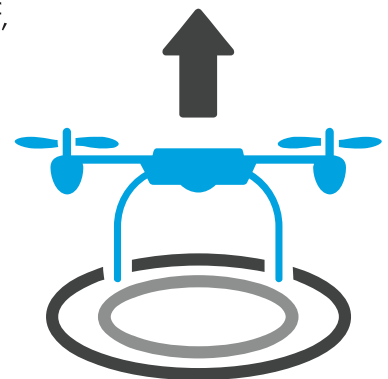
Ensure adequate space in all directions based on launch & recovery procedures. Conduct a final check of sUA controls, datalinks, & overall system status. Launch/takeoff into the wind using the appropriate method (hand-launch, catapult, etc.)

GO FLY

Capture any required footage or data. Be safe and remember to always have fun! Maintain visual line of sight. Be aware of disorientation risks. Make sure to thoroughly practice basic flight exercises before flying with hazards nearby.

CONSTANTLY CHECK DRONE BATTERY LEVELS

Make sure you have enough battery to return in plenty of time. It is recommended to set your low battery warning to 25%-30%, or follow manufacturer's guidelines. Remember to plan for reduced flight times if air temperatures fall outside of acceptable ranges, or if GPS positioning hold requires additional power output due to high winds.



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AUTONOMOUS FLIGHT CONSIDERATIONS

VERIFY BASELINE SETTINGS

Verify all baseline settings in the primary flight control software are correct prior to initializing any autonomous flight software.

CONFIGURE AUTONOMOUS FLIGHT PROFILE

Configure settings in the autonomous software platform based on specific flight area conditions and data collection requirements.

PERFORM PRE-LAUNCH CHECK

Execute either an automated or manual check of all critical system functions.

CLEAR THE TAKE-OFF AREA

Ensure everyone is clear of the take off zone and that the unmanned aircraft is properly positioned for launch.

INITIATE AUTONOMOUS FLIGHT

MONITOR THE DRONE'S LOCATION AND SYSTEM STATUS

Maintain line of sight contact with the aircraft throughout the autonomous flight profile. Monitor system information and flight progress on the Flight Display.

BE PREPARED TO ASSUME CONTROL

In the event of a system malfunction during autonomous flight operations, the pilot must be prepared to resume manual control and execute Emergency Procedures if necessary.

LANDING CHECKLIST

CHECK LANDING ZONE

Prior to landing ensure landing area is clear.

MULTIROTOR RETURN AIRCRAFT TO THE LANDING ZONE

Maneuver the aircraft to a position directly above the landing zone and rotate the aircraft to a 'nose forward' orientation.

FIXED WING RETURN AIRCRAFT TO THE LANDING ZONE

Maneuver the aircraft into position for a landing in the designated area. Whenever possible, land into the wind to reduce ground speed and facilitate a soft touchdown.

CONDUCT AN AUTONOMOUS OR MANUAL LANDING

Be sure you understand how the aircraft will function when under autonomous control. If manual landing is executed, perform a motor shutdown upon landing.

POWER DOWN

When you land, turn the drone off first. Then turn off the ground control unit and the Flight Control App.

COMPLETE FLIGHT LOG AND POST-FLIGHT MAINTENANCE CHECKS